materials must have a considerable energetic cost, indicating a high premium for unreinforced retreats.

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Observations of the Port Darwin Sea Snake *Hydrelaps darwiniensis*

The Port Darwin Sea Snake *Hydrelaps darwiniensis* (Hydrophiidae), was named from two specimens collected near Darwin (Boulenger 1896). Since then little has been added to our knowledge of the species except that it lives in mangrove areas in northern Australia and feeds on mudskippers (*Periopthalmus*) (Gow 1989; Cogger 1992). It is reported to swim along the water line of rising or falling tides investigating crab holes in compacted to relatively soft mud (Ehmann 1992). Six specimens were retrieved from the stomachs of sharks that were netted within Darwin Harbour in the Frances Bay region (Lyle & Timms 1987).

On 17 October 1992, we observed several *H. darwiniensis* from a dinghy on Sadgrove's Creek, Darwin, where the species had been recorded previously (J. Lyle pers. comm.). Four hours of careful checking of the mangrove-lined streams during low tide proved fruitless. At 15:00, however, as the tide began to rise, a single *H. darwiniensis* was seen leaving the water and crawling onto a bank of consolidated mud. It then moved into a nearby crab burrow to emerge some minutes later from a neighbouring burrow. Another three individuals were seen within 30 minutes of the first, but none in the subsequent two hours. These observations, albeit limited, indicate that the species is diurnal, and that it probably feeds out of the water.

PLATE 5 The Port Darwin Sea Snake *Hydrelaps darwiniensis* from Sadgrove's Creek (P.McGrath).

The first individual was captured and kept for 48 hours in a bucket of seawater collected at the same time. The snake was extremely adept at moving on land, and was placed in a pool in the upper tidal zone for photographing. It paused and drank for about a minute from the pool which contained water that was fresh to taste and presumably had accumulated from an overnight storm. Although sea snakes are thought to obtain their fresh water requirements by removing salt from their bodies with specialised "salt "glands near the tongue (Burns & Pickwell 1972), the closely-related sea kraits are known to drink fresh water when it is available (Guinea 1991).

The terrestrial feeding habits of this species are unique among seasnakes, and deserves further study.

References

Boulenger, G. A. (1896) *Catalogue of the Snakes in the British Museum (Natural History).* Volume 3. Trustees of the British Museum, London.

Burns B, & Pickwell, G.V. (1972) Cephalic glands in sea snakes (*Pelamis*, *Hydrophis* and *Laticauda*). *Copeia* **3**, 547-559.

Cogger, H.G. (1992) *Reptiles and Amphibians of Australia* (5th edition). Reed International, Sydney, 775 pp.

Ehmann, H. (1992) *Encyclopedia of Australian Animals: Reptiles*. Angus & Robertson, Pymble, N.S.W.

Gow, G.F. (1989) *Graeme Gow's Complete Guide to Australian Snakes*. Angus and Robertson, North Ryde, NSW.

Guinea, M.L. (1991) Rainwater drinking by the sea krait *Laticauda colubrina*. *Herpetofauna* **21**, 13-14.

Lyle, J.M. & Timms, G.J. (1987) Predation on aquatic snakes by sharks from Northern Australia. *Copeia* **3**, 802-803.

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Antiphonal Song in the Black Butcherbird *Cracticus quoyi* in Darwin

Duetting, in which two birds sing simultaneously, is a common occurrence, especially among medium sized tropical passerines (e.g. Diamond & Terborgh 1968; Diamond 1972). Antiphonal singing, in which two birds sing phrases alternately to produce an integrated melody, is less commonly reported. Duetting is well known in various Australian and New Guinea species of butcherbirds (Macdonald 1973; Frith 1976; Coates 1990), but neither duetting nor antiphonal song appear to have been recorded for the Black Butcherbird *Cracticus quoyi*. This paper reports on the occurrence of antiphonal song for this species in the Darwin region.

The Black Butcherbird is common in mangroves and remnant riparian forest in the Darwin region. Between July 1988 and July 1993 I conducted an early morning census of birds on about 18 days per month. The census followed a regular route including residential streets, parkland, mangroves and riparian vegetation bordering Rapid Creek. Two pairs of Black Butcherbirds, presumed to be the